

# EXHIBIT 21

1 UNITED STATES DISTRICT COURT FOR THE  
2 NORTHERN DISTRICT OF CALIFORNIA  
3 SAN JOSE DIVISION

4 ---000---

COPY

6 THE APPLE IPOD iTUNES ANTI-  
7 TRUST LITIGATION,

No. C-050037-JW(RS)

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11 DEPOSITION OF ROGER G. NOLL, Ph.D.  
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14  
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17 Taken before EARLY K. LANGLEY, RPR, RMR

18 CSR No. 3537

19 September 19, 2008  
20  
21  
22  
23



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DEPOSITION OF ROGER G. NOLL, Ph.D.

BE IT REMEMBERED, that pursuant to Notice, and on the 19th day of September 2008, commencing at the hour of 10:10 a.m., in the offices of Jones Day, 555 California 26th Floor, San Francisco, California, before me, EARLY K. LANGLEY, a Certified Shorthand Reporter, personally appeared ROGER G. NOLL, Ph.D., produced as a witness in said action, and being by me first duly sworn, was thereupon examined as a witness in said cause.

---o0o---

BONNY E. SWEENEY, PAULA ROACH, Coughlin Stoia Geller Rudman & Robbins LLP, 655 West Broadway, Suite 1900, San Diego, California 92101, appeared on behalf of the Purchasers Plaintiffs.

HELEN I. ZELDES, Zeldes & Haeggquist, LLP, 655 West Broadway, Suite 1410, San Diego, California 92101, appeared on behalf of the Indirect Purchaser Plaintiffs.

1           ROBERT A. MITTELSTAEDT, MICHAEL SCOTT, Jones  
2 Day, 555 California Street, 26th Floor, San Francisco,  
3 California, 94104, appeared on behalf of the Defendant  
4 Apple, Inc.

5

6           ALSO PRESENT: Carlyn Clause.

7           Nick Silva, Videographer, Aiken & Welch Court  
8 Reporters and Video, One Kaiser Plaza, Fifth Floor,  
9 Oakland, California 94612.

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P R O C E E D I N G S

--o0o--

THE VIDEOGRAPHER: Stand by. On the  
record.

10:09

My name is Nick Silva. I'm a qualified  
video technician and a notary public for the  
County of Alameda, State of California.

I'm videotaping on behalf of Aiken & Welch  
Court Reporters at One Kaiser Plaza, Fifth Floor,  
in Oakland, California 94612. Today's date is  
September 19th, 2008, and the present time is  
10:10. The location of this deposition is the  
Jones Day law firm at 555 California Street, 26th  
Floor, San Francisco, California 94101.

10:09

10:10

Today's witness is Roger G. Noll in the  
case of Apple, Inc., versus the Apple iPod iTune  
Anti-Trust Litigation, case no. C-05-00037-JW(RS),  
filed in the United States District Court,  
Northern District of California, San Jose  
Division.

10:10

This deposition was noticed by a Robert A.  
Mittelstaedt for the defendants.

Would the counsel for the parties please  
identify themselves and for whom they are

10:10

1 appearing.

2 MS. SWEENEY: Bonny Sweeney from the  
3 Coughlin Stoia law firm representing the direct  
4 purchaser plaintiffs.

5 MS. ROACH: Paula Roach from Coughlin 10:10  
6 Stoia representing plaintiffs.

7 MS. ZELDES: Helen Zeldes from Zeldes &  
8 Haeggquist representing the indirect purchaser  
9 plaintiffs.

10 MR. MITTELSTAEDT: And Bob Mittelstaedt 10:10  
11 for the defendant with Jeff LeVee, Michael Scott  
12 and Carlyn Clause.

13 THE VIDEOGRAPHER: Would the counsel  
14 please state any stipulations or statements that  
15 they would like on the record at this time. 10:11

16 MR. MITTELSTAEDT: None.

17 THE VIDEOGRAPHER: The reporter may now  
18 swear the witness.

19 ROGER NOLL, Ph.D.

20 sworn as a witness,

21 testified as follows:

22 EXAMINATION BY MR. MITTELSTAEDT:

23 Q. Good morning. If you would state your  
24 name and business address, please.

25 A. My name is Roger G. Noll and I'm in the 10:11

1 Q. What was the discussion?

2 A. It was very brief. She said, "I'm going  
3 to go buy an iPod," and then she -- I said, "Fine.  
4 Go buy an iPod."

5 Q. Did she give you any reason why she wanted 10:13  
6 to buy an iPod?

7 A. No.

8 Q. Do you know if she shopped around for  
9 competing devices?

10 A. I think -- I think she considered a 10:13  
11 portable CD player, but I don't know how  
12 seriously. I don't know whether she shopped for  
13 it.

14 Q. Do you know if she considered any other  
15 portable digital music players, MP3 players? 10:14

16 A. I can't say for certain. I don't know.  
17 Because I wasn't -- I wasn't part of the search  
18 process.

19 Q. Okay. Do you know whether your wife has  
20 any -- has ever bought any music from Apple's 10:14  
21 iTunes's music store?

22 A. Yes, I know whether she has.

23 Q. And what's the answer?

24 A. The answer is no.

25 Q. Okay. Do you have any information about 10:14

1 Q. And at what point did you think this case,  
2 as it was described to you, sounded a lot like  
3 Microsoft?

4 A. Instantaneously.

5 Q. And what was it about the description of 10:20  
6 this case that led you to that initial reaction?

7 A. We were talking about the tying aspect of  
8 it, and that's what sounded like it was -- had a  
9 similarity to tying middleware to operating  
10 systems that were parts of numerous complaints 10:20  
11 against Microsoft.

12 Q. Do you have any information one way or  
13 another whether a consumer can play music from the  
14 iTunes store on any portable digital player other  
15 than iPod? 10:21

16 A. Well, I'm -- yeah, I'm aware precisely  
17 what their limitations are. I mean, if you -- the  
18 mechanism is to either do an actual or virtual  
19 burn of the CD and then replay it.

20 Q. And in that way, music can be played from 10:21  
21 the iTunes store on portable players other than an  
22 iPod; correct?

23 A. If you go through that set of procedures,  
24 yes. Just like you could always use Netscape,  
25 even though Internet Explorer was the default

1 Q. Okay. And what is the "it" there when you  
2 say it shifted --

3 A. The fact that there was a differential  
4 ease of access that it was substantial between  
5 iPods and competing portable digital media 10:28  
6 players.

7 Q. Okay. And that differential ease of  
8 access is the two extra steps, burning and  
9 ripping; correct?

10 A. The issue with -- yes. The issue is the 10:28  
11 question -- the core question is whether that is  
12 substantial enough to -- to be the equivalent of a  
13 small but significant nontransitory increase in  
14 price. That is to say, does it impose a cost that  
15 is sufficient so that it affects peoples' 10:29  
16 decisions about which portable digital media  
17 player to buy.

18 Q. Okay. And, again, the "it" in that answer  
19 is the two extra steps to get music from Apple's  
20 music store to a competing player as opposed to an 10:29  
21 iPod; is that correct?

22 A. There's that aspect to it, plus there's  
23 also a potential issue about the quality of  
24 reproduction arising from undertaking those steps.

25 Q. Okay. Do you hold the view that that type 10:29

1 prepare your report and to complete your  
2 assignment?

3 A. I would have liked to have much more  
4 discovery information. But given the amount of  
5 information I had, I didn't feel pressed for time. 10:41

6 Q. All right. Is there any place where you  
7 think your report is particularly vulnerable or  
8 questionable or where you're out on a limb?

9 A. Not at all. Seems to me this is a fairly  
10 straightforward class certification case. And 10:41  
11 it's not anywhere near as complex as some other  
12 class certification cases I've been involved in.

13 Q. And if your students submitted your report  
14 to you as an exam, you'd give it an A-plus?

15 A. That's a very hard thing to say because I 10:41  
16 have a -- this is my child. I have a certain  
17 affection for the way I say things. So I'm not  
18 sure I'm an objective grader of my own reports.  
19 But I -- I don't have any -- I'm not -- there's  
20 nothing in it that I feel uneasy about. 10:42

21 Q. What do you think would be the strongest  
22 defense for Apple in this case on the merits?

23 MS. SWEENEY: Objection to the extent that  
24 it calls for a legal conclusion.

25 THE WITNESS: Well, I'm talking -- this is 10:42

1 a report about class certification. So the issue  
2 would be how -- what could Apple do or say to  
3 undermine the idea that the class should be  
4 certified. But that's the only issue that I've  
5 thought about.

6 I mean, I'm -- haven't reached a  
7 conclusion on whether Apple actually did engage in  
8 anticompetitive behavior that requires remedy in a  
9 court. So all I've thought about is whether the  
10 case is legitimately a class. 10:42

11 And so in that sense, the -- I don't have  
12 information about how the wholesale market works  
13 because that wasn't discovered. And so, you know,  
14 I suspect you can probably find an economist who  
15 will say that something along the lines of 10:43  
16 everybody in the wholesale market engages in  
17 individual negotiations, there's no such thing as  
18 a list price, and there is no systematic way to  
19 represent the pricing process in a formula.

20 That's my prediction about what's going to 10:43  
21 happen with regard to class certification, but I  
22 don't know that that's true because it depends on  
23 what the information is.

24 I mean, you have a huge advantage because  
25 you've prevented me from looking at the data, but 10:43

1 you will undoubtedly give that data to your  
2 expert. And so what I'll be confronted with is an  
3 expert report that has much more information than  
4 I do and I'll have a few weeks to respond to it.  
5 So that'll be interesting.

10:43

6 BY MR. MITTELSTAEDT:

7 Q. You have spent some time thinking about  
8 the merits of this case; correct?

9 A. I've spent some time thinking about it,  
10 but I don't have a conclusion about the merits. 10:44

11 Q. You haven't formed an opinion one way or  
12 another as to whether the alleged conduct by Apple  
13 is anticompetitive; is that correct?

14 A. I do not have a conclusion as to whether  
15 Apple is liable for an antitrust violation, with 10:44  
16 respect to its behavior. But in order to have --  
17 reach a conclusion, you have to do the things that  
18 were outlined in my report.

19 Q. I used the word "anticompetitive." You  
20 used the term "antitrust violation." 10:44

21 A. Yes.

22 Q. On purpose?

23 A. On purpose, because there are -- as I said  
24 earlier, there are acts that I would call  
25 anticompetitive that are nonetheless not antitrust 10:44

1 certification is is to describe the method that  
2 would provide an answer to the question. The  
3 answer may well be there was a zero effect.

4 So I can't sit here and say the conclusion  
5 that will be reached from that will be that the 11:23  
6 plaintiffs are correct.

7 All I can say is here's how you would  
8 resolve that issue, and the plaintiffs will take  
9 their shot at showing there was an effect. Your  
10 economists will take their shot at showing there 11:23  
11 was no effect, and then that will be resolved in  
12 court.

13 But the -- both sides will be using  
14 methods of common proof. And these are market  
15 impacts of the -- if any -- of the decision not to 11:24  
16 go with FairPlay in the way Apple did it.

17 BY MR. MITTELSTAEDT:

18 Q. Do you agree that in the but-for world,  
19 the world without the alleged anticompetitive act,  
20 Apple could still have some market power for 11:24  
21 iPods?

22 A. I think they almost certainly would have  
23 some market power in the world for -- market for  
24 iPods. There's no way that I believe their market  
25 share is going to go drop down into single digits 11:24

1 or anything like that. I would expect that Apple  
2 would have a significant market.

3 Q. Significant market power?

4 A. Yeah, sure --

5 THE REPORTER: I'm sorry. He talked on  
6 top of you.

7 MR. MITTELSTAEDT: Well --

8 THE WITNESS: He -- He interrupted me.

9 MR. MITTELSTAEDT: You said "significant."  
10 I said "significant market" power. And he said  
11 "sure."

12 THE WITNESS: This -- when I get two  
13 people interrupting me, it's more than twice as  
14 bad. So let's start over with where I was.

15 BY MR. MITTELSTAEDT:

16 Q. You said you would expect that Apple would  
17 have significant market.

18 A. And then you interrupted.

19 Q. And said do you mean significant market  
20 power?

11:25

21 A. Yeah. That's what the interruption was.

22 Okay. I believe that it's very possible,  
23 but I don't know for certain, that Apple would  
24 have substantial market power in the market for  
25 portable digital media players regardless.

11:25

1 differential ease of access to the iTunes Music  
2 Store for these competing MP3 players; correct?

3 A. Well, that's one feature. But another  
4 feature would have been suppose that Apple had  
5 licensed FairPlay to SanDisk which is a really 11:28  
6 high quality product. All right. If you read  
7 ratings of portable digital media players, SanDisk  
8 is very high.

9 The additional benefit would have been the  
10 people who buy SanDisk would have a qualitatively 11:28  
11 superior experience to the already good experience  
12 they have with SanDisk.

13 Q. The way you're going to determine or try  
14 to determine whether there is any impact of what  
15 you call a tie on the price of iPods as opposed to 11:29  
16 the impact from substantial market power that you  
17 think Apple might have in the but-for world  
18 anyway, is to run some regression analyses; is  
19 that correct?

20 A. Well, maybe, maybe not. I can't tell you 11:29  
21 what analysis I'm going to do to get at  
22 anticompetitive impact as opposed to damages until  
23 I know what data are available.

24 It would be completely foolish to say here  
25 are the regressions I'm going to run independent 11:29

1 recordings from the major distribution companies  
2 than any of its predecessors.

3 Q. Okay.

4 A. That was its main -- the main thing that  
5 happened in 2003 is that -- this doesn't have much 12:24  
6 to do with Apple. It's that between losing the  
7 permanent injunction against Napster in February  
8 of 2002 and the introduction of Apple, and then  
9 subsequently having to spin-off MusicNet and  
10 PressPlay because they were being attacked on 12:24  
11 antitrust grounds.

12 Hollywood changed its mind about the role  
13 of digital downloads in the music industry.  
14 Sometime between the spring of 2002 and the fall  
15 of 2002, it changed its mind and was -- and it 12:24  
16 happened in a different sequence like BMG had  
17 already decided that it was going to do this and  
18 that's why it bought a piece of Napster and was in  
19 the process of converting Napster to a legal site  
20 when the cases took place in 2001 and 2002. 12:25

21 So BMG was the first, and then there were  
22 others that were much later, and what had to  
23 happen for this whole source of music to evolve as  
24 an alternative to buying CDs, was that the  
25 distribution companies had to change their mind 12:25

1 about what they would allow people to sell as  
2 permanent downloads on the Internet. And that  
3 took place, you know, sometime in the middle of  
4 2002.

5 Q. What's your view on the -- on why the 12:25  
6 record labels insisted on use of DRM for the legal  
7 stores?

8 A. Well, we have to go back to history.  
9 Right.

10 The label's original strategy was to take 12:25  
11 over retailing, and they saw Digital Rights  
12 Management and the Digital Millennium Copyright  
13 Act as a means by which they had a window to  
14 control retail distribution. And, so, their  
15 initial foray in the creation of MusicNet and 12:26  
16 PressPlay was that digital downloads would be  
17 available only through the websites owned by the  
18 labels plus MusicNet and PressPlay. And that  
19 nobody else would basically be allowed to do it.  
20 Now -- and with the exception of BMG. BMG didn't 12:26  
21 subscribe to that, but everybody else did.

22 And, so, what had to happen was through  
23 litigation and negotiations, they had to be  
24 disabused of the notion that that could work.

25 Now, an essential ingredient of that 12:27

1 strategy was encryption because they had a number  
2 of business models that they thought they were  
3 going to be able to introduce, like they -- and  
4 you've seen it in other dimensions -- other  
5 products, but not so much as it would have been in 12:27  
6 digital downloads.

7 They wanted to move from selling a  
8 physical product, whether it's a file or a CD, to  
9 selling continuous access. Basically they wanted  
10 to be able to limit the number of uses of a file a 12:27  
11 consumer could have and -- without the file  
12 self-destructing. And they actually tried to  
13 implement that in video with DivX, and they  
14 originally tried to implement that with digital  
15 downloads with their own Digital Rights Management 12:27  
16 system that would be exploding files, that you  
17 would have them for a certain amount of time or a  
18 certain amount of listens and then they would  
19 self-destruct.

20 All right. So Digital Rights Management 12:28  
21 to Hollywood meant more than just protecting  
22 against encryption. It also meant a whole series  
23 of monitoring features that would enable you to  
24 control use. And it wasn't until 2002 they  
25 decided that wasn't going to work. 12:28

1           So Digital Rights Management changed its  
2 meaning between the demise of Napster in the  
3 summer of 2001 and the rise of iTMS in April of  
4 2003. Sometime in that intervening period they  
5 changed the point of DRM to being this product 12:28  
6 management and marketing concept to being  
7 exclusively protection of intellectual property.

8           Q. In that context, do you view the  
9 introduction of Apple's iTunes Music Store as  
10 procompetitive? 12:29

11          A. Of course. I mean, I -- the introduction  
12 of a way to replace the CD with a digital download  
13 directly to a player and the ability to burn your  
14 own CDs was a huge benefit to consumers and it  
15 could have happened five years earlier. 12:29

16           I mean, Tower Records had done the work  
17 necessary to create such a website in 1998. They  
18 just weren't allowed to do it because of the  
19 restrictions that were put on them by the  
20 distribution companies. 12:29

21          Q. Do you think there is extensive  
22 competition at the systems level among Apple,  
23 Microsoft with its Zune, Microsoft with its  
24 PlaysForSure Network, Real, and others, at the  
25 systems level? 12:30

1 every method for estimating damages is in some  
2 fashion a competitive benchmark method. So I  
3 think it fits into the stuff I discuss.

4 But maybe I'm missing something, because I  
5 don't think there's anything out there that 14:17  
6 wouldn't fit into the template that I discussed in  
7 my report.

8 Q. Okay. Let's take a consumer who would  
9 have preferred to buy a competing MP3 player and  
10 was forced under the plaintiff's lock-in theory to 14:17  
11 buy an iPod.

12 A. Yes.

13 Q. And, so, did you consider whether that  
14 person's damage claim would be measured by the  
15 delta between the iPod price and the price of the 14:17  
16 competing player that he preferred?

17 A. I didn't use that as damages because that  
18 is conventionally not used as damages because it  
19 introduces an unsolvable problem which is what is  
20 the relative willingness to pay of the alternative 14:17  
21 versus the item in question at the individual  
22 level. That isn't -- to my knowledge, that's not  
23 a doable product.

24 The issue is -- here's -- here's the  
25 reason that if the -- if the price of an iPod 14:18

1 say. A com -- the fact that the market --  
2 remember this is all about market power, number  
3 one, and, number two, about a method for  
4 estimating damages. All right.

5 This is what it's about. 14:33

6 Now, with regard to the market power part,  
7 market power -- remember, market power isn't  
8 necessarily the result of an anticompetitive act.  
9 Firms can have market power for a variety of  
10 reasons, and in a product differentiated market, 14:34  
11 they will tend to have market power.

12 All right. We -- if you recall, I don't  
13 believe, and I think it would be foolish to assume  
14 that the but-for world is a perfectly competitive  
15 market. 14:34

16 In fact, I think it's probably the case,  
17 although I don't know this for sure, that the  
18 but-for world is one in which the leading producer  
19 of portable digital media players is Apple. So  
20 that's the problem. Right. If you have to figure 14:34  
21 out not what the competitive price is to get at  
22 the damages question, but at the market power  
23 level, you -- it is evidence of market power  
24 defined price -- prices in excess of marginal  
25 cost. Differences in products that represent

1 or in this case really three complementary  
2 products, quote, "work seamlessly," isn't  
3 sufficient to answer the question, because in the  
4 end it's consumers who are supposed to decide  
5 whether the seamlessness of how the products work 14:44  
6 together is worth the price. And it's not the  
7 producer who is supposed to make that.

8 So the fact that Apple believes that its  
9 products are the best thing that had ever happened  
10 since salted peanuts is a basis for them to 14:45  
11 believe that they would have been successful in  
12 all the complementary products regardless, but to  
13 insist that they be bought together, is -- has at  
14 least the potential for being anticompetitive,  
15 unless one can demonstrate there is a permanent 14:45  
16 efficiency gain that can only be achieved through  
17 the tying.

18 Q. You're not suggesting that Apple insist  
19 that in order to buy an iPod, you have to buy  
20 music from its Music Store, are you? 14:45

21 A. No. That's not what it says is if you are  
22 a person who wants -- if you are a person who  
23 wants to buy a portable digital player for the  
24 purpose of playing permanent digital downloads  
25 over the Internet from iTunes, then you must buy an 14:45

1 iPod.

2 Q. Unless you want to burn and rip?

3 A. Well, yes. Unless you want to -- unless  
4 you want to have -- there's other things you can  
5 do to get around the encryption.

14:46

6 Q. Okay.

7 A. You can -- if you want to buy one of the  
8 hacker programs as well. Although they -- there's  
9 quality issues there and there's legality issues  
10 there.

14:46

11 Q. Or use DuroSport compatibility kit?

12 A. Yeah. I mean, that's an example. That's  
13 30 bucks or something.

14 Q. Where did you find that product?

15 A. Searching from the Internet.

14:46

16 Q. Where did you search for?

17 A. I was looking for anything I could find on  
18 the Internet about how to get around FairPlay.  
19 And there are some hacker programs out there that  
20 I would never touch with a ten-foot pole. And --  
21 but there are also some real products out there,  
22 so.

14:46

23 Q. Okay.

24 A. And that was one of them.

25 Q. Let's go back to a couple of questions

14:46

1           So there are some examples of mandatory  
2   licensing of intellectual property. There are  
3   examples like terminal railroads or RFK Stadium --  
4   Hetck versus Pro Football where they're required  
5   to share capital investment. But, they're fairly 15:09  
6   rare. I mean that, you know, the number of such  
7   cases is five to ten or something like that.

8           Q. Essential facility cases?

9           A. Well, they can -- yeah. That's -- that's  
10   the most obvious one, but there's -- it's hard to 15:09  
11   think, you know, like the settlement of the 1954  
12   version of the AT&T case is not really an  
13   essential facilities case.

14          Q. Okay. So, just to take the first step  
15   here, if it turns out that -- let me strike that. 15:09  
16   Let me go back to the very first step.

17           You don't have any quarrel as an economist  
18   with Apple using some form of DRM for its Music  
19   Store; correct, because they were required to do  
20   that -- 15:09

21          A. They had no choice. That's not the issue.

22          Q. Okay. So the next step is whether to use  
23   a DRM that was compatible or incompatible with  
24   other music players other than the iPod, and if it  
25   turns out that it was least costly for Apple to 15:10

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24   other music players other than the iPod, and if it  
25   turns out that it was least costly for Apple to 15:10

1 make a DRM that was incompatible, you don't have  
2 any trouble with that decision from a competitive  
3 standpoint; correct?

4 A. I wouldn't describe that as the second  
5 decision. I would describe the second decision as 15:10  
6 shall we make our own or shall we buy one. All  
7 right. And I have no quarrel with the decision to  
8 make your own.

9 And then the -- once you've decided to  
10 make your own, then the third decision is shall we 15:10  
11 license it or shall we keep it inhouse. In other  
12 words, shall we allow people to compete with iPods  
13 or not.

14 Q. Okay. And on the second step, why don't  
15 you have any quarrel with Apple's decision to make 15:10  
16 its own?

17 A. Because I have no basis for  
18 second-guessing that. I mean, in principle, I  
19 suppose one might be able to prove that they --  
20 that -- that in an ex-ante before-the-facts sense, 15:11  
21 they shouldn't have attempted to make their own  
22 DRM. I, you know, without having discovery,  
23 there's no way I'm going to assert that's true. I  
24 would have to know a lot about the decisions being  
25 made inside Apple in 2001, 2002, that gave rise to 15:11

1 FairPlay. And I don't know, and I don't have  
2 anywhere near enough of information to  
3 second-guess that decision at this point.

4 Q. But why, in general, do you think a  
5 company entering a market is entitled to develop 15:11  
6 its own software to do that rather than being  
7 forced, for example, to use Microsoft's software?

8 A. Because they think -- they think they can  
9 do it better. All right. And you don't want to  
10 have a rule that says even if you think you can do 15:11  
11 it better, you never can. All right. That's not  
12 the right rule to have.

13 The right rule to have has got to be  
14 something different than that, because you don't  
15 want to say we're going to freeze the technology 15:12  
16 forever, whatever it was in 2001. And you can't  
17 do anything differently than that without  
18 violating the antitrust laws. That would be  
19 stupid.

20 Q. Why would it be stupid? 15:12

21 A. Well, because it would prohibit  
22 innovation. The issue is not did you innovate or  
23 did you attempt to innovate. The issue is what  
24 did you do with it once you got it. And was there  
25 something about the decision that was affected by 15:12

1           A. It's how technically literate they are.  
2   How easy it is for them to switch the file format,  
3   to do the things necessary to switch the file  
4   format. Whether they have a CD burner. Not  
5   everybody has a CD burner. 15:52

6           So there are -- the degree to which any  
7   given person is locked in is -- just depends on a  
8   bunch of stuff.

9           What's necessary for the lock-in effect to  
10   matter is that, indeed, it creates a sufficiently 15:52  
11   less elastic demand curve that there is a small  
12   but significant nontransitory increase in price  
13   arising from the lock-in effect.

14          Q. Is another variable in deciding whether a  
15   particular person is locked in and buys an iPod 15:52  
16   because of the lock-in rather than a competing  
17   player that they prefer the -- the degree to which  
18   they prefer the other MP3 player, in other words,  
19   the stronger -- the weaker the preference for the  
20   other MP3 player, the less they're locked in? 15:53

21          A. Well, yes. Obviously, how they value the  
22   alternatives is relevant.

23          Q. Is it also --

24          A. I mean the reality is anybody who bought  
25   an iPod, if there was a lock-in effect, anybody 15:53

1 products because that's what it does? Is it the  
2 case that people who own SanDisks are more likely  
3 to be charged with violation of intellectual  
4 property rights than people who own iPods? Those  
5 are kinds of things you could get at to answer 16:15  
6 whether that business justification was adequate.

7 Q. Let me try a question that I asked before  
8 that I didn't ask very well or at least let me  
9 just ask it.

10 Do you have a view on what -- as an 16:15  
11 economist -- on what the effects on competition  
12 and innovation would be if the rule were that a  
13 company cannot introduce a new Music Store unless  
14 it works as well with competitors' digital music  
15 players as it does with that company's own player, 16:15  
16 and here I'm talking about devices? In other  
17 words --

18 A. That would be a completely idiotic rule.

19 Q. Why?

20 A. Because it goes so far beyond what a tying 16:16  
21 violation is. I mean the only issue here is can  
22 Apple do it. Nobody else is a candidate for  
23 having a dominant position or monopoly power in  
24 the Music Store business, so it's not an antitrust  
25 violation for Microsoft to have done it. It 16:16

1 wouldn't be an antitrust violation for  
2 RealNetworks to do it certainly wouldn't be an  
3 antitrust violation for any one of the dozen other  
4 free software media player people to do it. So  
5 the -- the rule would be ridiculous. 16:16

6 The only issue that arises here is  
7 something that can happen to at most one firm that  
8 either there's a dominant firm or there isn't. If  
9 there is a dominant firm, then they can engage in  
10 behavior that's anticompetitive that if engaged in 16:17  
11 by other people would not be anticompetitive.

12 Q. Let's say that contrary to what you and I  
13 both believe, Microsoft's Zune player takes over  
14 the world, and Microsoft --

15 A. God, I hope not. 16:17

16 Q. -- ends up with the same what you referred  
17 to as dominant position as Apple has now.

18 A. Then we have Microsoft, the 173rd  
19 antitrust case against Microsoft because there's  
20 no way they are go going to do that without 16:17  
21 fussing around.

22 Q. Let's keep Microsoft out because of your  
23 experience with them.

24 Let's say Roger Noll comes up with --  
25 you're driving home tonight and you're thinking, 16:17

1 cost to Apple to thwart Real Network's hack, or  
2 whatever you want to call it?

3 MS. SWEENEY: Objection. Incomplete  
4 hypothetical. Asked and answered.

5 THE WITNESS: You have to change the 16:30  
6 wording on some of those a little bit.

7 But, right, if every single allegation of  
8 an anticompetitive act didn't happen then, of  
9 course, there is no anticompetitive effect.

10 BY MR. MITTELSTAEDT: 16:31

11 Q. That answer that doesn't do me much good.

12 A. I thought that's what you did is you gave  
13 me a list of the allegations of the  
14 anticompetitive acts and said assume none of them  
15 actually happened, right, that this was no 16:31  
16 positive proactive --

17 Q. Which words do you have to change to agree  
18 with what I said?

19 A. Well, we --

20 MS. SWEENEY: Objection to form. 16:31

21 THE WITNESS: We discussed the  
22 microprocessor issue before which is it's not --  
23 it's not -- the issue to me was never disabling  
24 the microprocessor, but there would be no reason  
25 to do that. 16:31

1 are kind of expensive so they haven't had a huge  
2 success in the market but they're there, they're  
3 out there.

4 Q. Let me go back to my question. The basic  
5 question is: What facts would satisfy you that 16:36  
6 Apple's conduct was not anticompetitive, and let  
7 me just list them again and stop me when you think  
8 the wording ought to be different: Number one,  
9 Apple used DRM because the labels required it?

10 A. We agreed to that. I don't think there's 16:36  
11 an issue there. Everybody, not only Apple, but  
12 everybody was required to use DRM initially.

13 Q. But that -- that's one factor that will  
14 lead you to conclude that Apple's conduct was not  
15 anticompetitive because if it were the other way, 16:36  
16 if Apple had decided let's use DRM and the labels  
17 didn't require it that would cause you some  
18 concern?

19 A. Maybe, maybe not. I mean that's not  
20 sufficient, all right. 16:36

21 Q. Okay. No. 2, Apple decided to develop its  
22 own DRM rather than using somebody else's; that's  
23 okay, right?

24 A. In principle that's not wrong. It depends  
25 how and how they implement it. The act of doing 16:37

1 A. Oh, I'm sorry. I'm sorry. It's late in  
2 the day. Explain what we're after now.

3 Q. You understand that the purported class  
4 includes both direct consumers and resellers like  
5 Best Buy?

17:01

6 A. The wholesale market?

7 Q. Yes.

8 A. Yes. Remind me what I was asked again.

9 Q. Do you know whether or not you can use the  
10 same regression analyses for both?

17:02

11 MS. SWEENEY: Both being resellers and  
12 consumers?

13 BY MR. MITTELSTAEDT:

14 Q. Yes.

15 A. My best guess is there's going to be two  
16 regression analysis models because obviously the  
17 wholesale price differs from the retail price.

17:02

18 What I -- what I need to know is how the  
19 wholesale market actually works. I need documents  
20 about Apple's pricing policy in the wholesale  
21 market. I need transactions data in the wholesale  
22 market and how I'll go about doing it -- doing  
23 that part of the analysis would depend on those  
24 details.

17:02

25 Let's take the simplest possible case,

17:02

1 which I doubt that it's true, but let's assume  
2 that it's true. Assume that the wholesale market  
3 looks exactly like the retail market, that there's  
4 a posted price for each model of iPod that's 30 or  
5 40 percent below the retail price and everybody 17:03  
6 can buy as much as they want at that posted price.

7 In that case, the -- a product-specific  
8 dummy variable whether the buyer was a wholesaler  
9 would be sufficient, right. But that's almost  
10 certainly not going to be true. It might be true. 17:03

11 But I suspect there are quantity discounts  
12 and advance purchase discounts, and, you know,  
13 special promotional discounts if you spend some  
14 money on advertising we'll pay some of it. So  
15 there's likely to be more complexity in the price 17:03  
16 formation in the wholesale market than in the  
17 retail market in which case there will probably  
18 have to be two equations.

19 Q. And can you tell me anything more than --  
20 more than what is in your report on what the 17:03  
21 equation will look like for the wholesale --

22 A. Actually, if that's the case, it will look  
23 a whole lot like the one I just did which is  
24 static random access memory, static random access  
25 memory, which is a different kind of case. It's a 17:04

1 But, see, when you get to damages, you're  
2 not really -- you're not really concerned about  
3 the cross-elasticity of demand and the prices and  
4 quantities of all the other players, you're just  
5 focusing on the price and quantity of the product, 17:17  
6 the referenced product. And so that makes it  
7 easier.

8 Q. Would you expect that Amazon.com makes  
9 more money on sales of some devices portable  
10 digital players than on the sale of other portable 17:17  
11 digital players?

12 A. It would be inconceivable to me that the  
13 profitability of every single product on  
14 Amazon.com is the same.

15 Q. But for this type of product? 17:17

16 A. That's what I meant.

17 Q. For portable digital players?

18 A. For portable digital players, I would be  
19 very surprised if the profitability of every  
20 single player is identically the same for 17:17  
21 Amazon.com.

22 Q. Would you expect significant differences?

23 A. What do you mean by "significant"? In a  
24 statistical sense? Or in a magnitude sense?

25 Q. Magnitude. 17:17

1           A. I don't really know. Part of it would  
2 have to do with volume versus margin, you know.  
3 So, there's costs associated with selling stuff  
4 from the standpoint of Amazon.com that go beyond  
5 just the wholesale cost of a device so I don't           17:18  
6 know what to expect.

7           I don't know enough about Amazon.com's  
8 pricing policies or cost structure to know whether  
9 they do have big price differences across these  
10 products.           17:18

11          Q. Do you know what a playlist is?

12          A. I think I know what a playlist is.

13          Q. What do you think it is?

14          A. It's a list of things you play.

15          Q. In the context of Apple's Music Store.           17:18

16          A. Yeah. I think it is the things that you  
17 have access to, but I'm not certain what you mean.  
18 So, let's -- maybe you can define it for me.

19          Q. Let me ask you two final questions. You  
20 say at page 28, and let me just read it to you.           17:18  
21 If you want to see it, that's fine.

22                 "If a large fraction of consumers purchase  
23 all products from the same vendor, economic  
24 analysis can determine whether the cause is tying  
25 or bundling rather than a true preference for an           17:19

1 STATE OF CALIFORNIA )

2 ) ss.

3 COUNTY OF ALAMEDA )

4

5

6 I, EARLY LANGLEY, a Shorthand Reporter, State  
7 of California, do hereby certify:

8 That ROGER G. NOLL, in the foregoing deposition  
9 named, was present and by me sworn as a witness in the  
10 above-entitled action at the time and place therein  
11 specified;

12 That said deposition was taken before me at  
13 said time and place, and was taken down in shorthand by  
14 me, a Certified Shorthand Reporter of the State of  
15 California, and was thereafter transcribed into  
16 typewriting, and that the foregoing transcript  
17 constitutes a full, true and correct report of said  
18 deposition and of the proceedings that took place;  
19 IN WITNESS WHEREOF, I have hereunder subscribed my hand  
20 this 24th day of September 2008.


21

22

23

24

25

  
EARLY LANGLEY, CSR NO. 3537  
State of California